

AMENDED CLAIMS

[received by the International Bureau on 22 september 2003 (22.09.03) ;
original claims 1-35 replaced by amended claims 1-35 (6 pages)]

1. A luminous composition, comprising:
cement; and
micro-capsules comprising an alkaline earth metal aluminate encapsulated in a light-transmitting resin, light-transmitting glass or combination thereof.
2. A luminous composition, comprising:
hydraulic cement;
a polymer;
limestone; and
micro-capsules comprising an alkaline earth metal aluminate encapsulated in a light-transmitting resin, light-transmitting glass or combination thereof.
3. The composition of claim 2, wherein the alkaline earth metal aluminate is a strontium aluminate.
4. The composition of claim 2, wherein the polymer is a polyvinyl acetate polymer.
5. The composition of claim 2, wherein the light-transmitting glass is a silica glass.
6. The composition of claim 2, wherein the light-transmitting resin is an acrylic resin.
7. The composition of claim 2, wherein the micro-capsules range in size from about 0.7 μm to about 135 μm .

8. The composition of claim 2, further comprising silica.
9. The composition of claim 2, comprising about 16% by weight hydraulic cement, about 14% by weight polymer, about 45% to about 60% by weight limestone, about 15% by weight micro-capsules of alkaline earth metal aluminate and optionally about 7% to about 10% by weight silica.
10. The composition of claim 2, wherein less than about 30% of the encapsulated aluminate is fractured.
11. A luminous composition comprising:
 - hydraulic cement;
 - a polymer;
 - limestone;
 - a curing decelerant;
 - an anti-foaming agent; and
 - micro-capsules of an alkaline earth metal aluminate encapsulated in a light-transmitting, resin, glass or combination thereof.
12. The composition of claim 11, further comprising silica.
13. The composition of claim 11, wherein the polymer is a polyvinyl acetate polymer.
14. The composition of claim 11, wherein the light-transmitting glass is a silica glass.

15. The composition of claim 11, wherein the light-transmitting resin is an acrylic resin.

16. The composition of claim 11, wherein the micro-capsules range in size from about 0.7 μm and about 200 μm .

17. The composition of claim 11, wherein the alkaline earth metal aluminate is a strontium aluminate.

18. The composition of claim 10, comprising about 16% by weight cement, about 14% by weight polymer, about 55% to about 60% by weight limestone, about 0.05% to about 0.3% by weight curing decelerant, about 0.10% by weight anti-foaming agent, about 10% by weight encapsulated alkaline earth metal aluminate and optionally about 4.5% by weight silica.

19. The composition of claim 11, wherein less than about 30% of the encapsulated aluminate is fractured.

20. A luminous composition comprising:

hydraulic cement;

silica sand;

a polymer;

a thickener;

a whitener; and

micro-capsules comprising an alkaline earth metal aluminate encapsulated in a light-transmitting resin, light-transmitting glass or combination thereof.

21. The composition of claim 20, wherein the polymer is a vinyl acetate ethylene copolymer.
22. The composition of claim 20, wherein the light-transmitting glass is a silica glass.
23. The composition of claim 20, wherein the light-transmitting resin is an acrylic resin.
24. The composition of claim 20, wherein the micro-capsules range in size from about 0.7 μm and about 200 μm .
25. The composition of claim 20, wherein the alkaline earth metal aluminate is a strontium aluminate.
26. The composition of claim 20, comprising about 38% by weight cement, about 43.9% by weight silica sand, about 4% by weight polymer, about 0.1% by weight thickener, about 4% by weight whitener and about 10% by weight encapsulated alkaline earth metal aluminate.
27. The composition of claim 20, wherein less than about 30% of the encapsulated aluminate is fractured.
28. An alkaline earth metal aluminate powder comprising a plurality of micro-capsules of an alkaline earth metal aluminate encapsulated in a light-transmitting resin, glass or combination thereof, wherein the micro-capsules range in size from about 0.7 μm and about 200 μm and wherein less than about 30% of the encapsulated aluminate is fractured.

29. A method of making an alkaline earth metal aluminate powder, the method comprising cooling an alkaline earth metal aluminate encapsulated in a light-transmitting, resin, glass or combination thereof to a temperature of about -250°F to about -350°F; and rendering the encapsulated aluminate into a powder comprising micro-capsules of the alkaline earth metal aluminate encapsulated in the light-transmitting resin, light-transmitting glass or combination thereof, the micro-capsules ranging in size from about 0.7 μm to about 200 μm , wherein less than about 30% of the encapsulated aluminate is fractured.

30. The method of claim 29, wherein when the aluminate is encapsulated in a light-transmitting resin, the method further comprises heating the powder to a temperature about equal to or less than the resin's glass transition temperature.

31. An alkaline earth metal aluminate powder made by the process of claim 29.

32. A method of making a luminous composition, the method comprising cooling an alkaline earth metal aluminate encapsulated in a light-transmitting resin, light-transmitting glass or combination thereof to a temperature of about -250°F to about -350°F;

rendering the encapsulated alkaline earth metal aluminate into a powder comprising micro-capsules comprising the alkaline earth metal aluminate encapsulated in the light-transmitting, resin, light-transmitting glass or combination thereof, the micro-capsules ranging in size from about 0.7 μm to about 200 μm ; and

combining the aluminate powder with hydraulic cement, a polymer, and limestone to produce a luminous composition.

33. The method of claim 32, wherein when the aluminate is encapsulated in a light-transmitting resin, the process further comprises heating the powder to a temperature equal to

or less than the resin's glass transition temperature before adding it to the hydraulic cement, polymer and limestone.

34. The method of claim 32, wherein the alkaline earth metal aluminate is a strontium aluminate.

35. A luminous composition made by the process of claim 32.